ITFS response station. A fixed station operated by an ITFS licensee, the lessee of ITFS channel capacity or a subscriber of either to communicate with a response station hub or associated ITFS station. A response station under this part may share facilities with other ITFS response stations and/or one or more Multipoint Distribution Service (MDS) response stations authorized pursuant to §21.909 of this chapter or §21.949 of this chapter.

Main channel: The main channel is that portion of each authorized channel used for the transmission of visual and aural information as set forth in §73.682 of this Chapter and §74.938 of this subpart.

Point-to-point ITFS station. An ITFS station that transmits a highly directional signal from a fixed transmitter location to a fixed receive location.

Remote control. Operation of a station by a designated person at a control position from which the transmitter is not visible but where suitable control and telemetering circuits are provided which allow the performance of the essential functions that could be performed at the transmitter.

Response station hub. A fixed facility licensed to an ITFS licensee, and operated by an ITFS licensee or the lessee of an ITFS channel, for the reception of information transmitted by one or more ITFS response stations that utilize digital modulation with uniform power spectral density. A response station hub licensed under this part may share facilities with other ITFS response station hubs, MDS response station hubs authorized pursuant to §21.909 of this chapter, MDS signal booster stations, ITFS signal booster stations, MDS stations, and/or ITFS stations.

Response station hub license. A blanket license authorizing the operation of a single response station hub at a specific location and the operation of a specified number of associated digital response stations of one or more classes at unspecified locations within one or more regions of the response service area.

Sectorization. The use of an antenna system at an ITFS station, booster station and/or response station hub that is capable of simultaneously transmitting multiple signals over the same frequencies to different portions of the service area and/or simultaneously receiving multiple signals over the same frequencies from different portions of the service area.

Signal booster station. An ITFS station licensed for use in accordance with §74.985 that operates on one or more ITFS channels. Signal booster stations are intended to augment service as part of a distributed transmission system where signal booster stations retransmit the signal of an ITFS station and/or originate information. A signal booster station licensed under this part may share facilities with other ITFS signal booster stations, MDS signal booster stations authorized pursuant to §21.913 of this chapter, MDS response stations and/or ITFS response stations.

Studio to transmitter link (STL). A directional path used to transmit a signal from a station's studio to its transmitter.

Subsidiary channel: A subsidiary channel is any portion of an authorized channel not used for main channel transmissions.

Temporary fixed ITFS station. An ITFS station used for the transmission of material from temporary unspecified points to an ITFS station.

Unattended operation. Operation of a station by automatic means whereby the transmitter is turned on and off and performs its functions without attention by a designated person.

[28 FR 13731, Dec. 14, 1963, as amended at 35 FR 4705, Mar. 18, 1970; 48 FR 33901, July 26, 1983; 49 FR 32596, Aug. 15, 1984; 55 FR 46013, Oct. 31, 1990; 60 FR 55483, Nov. 1, 1995; 63 FR 65113, Nov. 25, 1998; 64 FR 63737, Nov. 22, 1999]

§ 74.902 Frequency assignments.

(a) The following frequencies may be assigned to instructional television fixed stations:

Channel No.	Band limits MHz
GROUP A	
A–1	2500–2506
A–2	2512–2518
A–3	2524–2530
A–4	2536–2542
GROUP B	
B–1	2506–2512

Channel No.	Band limits MHz
B–2	2518–2524
B–3	2530–2536
B–4	2542–2548
GROUP C	
C–1	2548–2554
C–2	2560–2566
C–3	2572–2578
C–4	2584–2590
GROUP D	
D–1	2554–2560
D–2	2566–2572
D–3	2578–2584
D–4	2590–2596
GROUP E	
E–1	2596–2602
E–2	2608–2614
E–3	2620–2626
E–4	2632–2638
GROUP F	
F–1	2602–2608
F–2	2614–2620
F–3	2626–2632
F–4	2638–2644
GROUP G	
G–1	2644–2650
G–2	2656–2662
G–3	2668–2674
G–4	2680–2686

(b) Instructional Television Fixed Stations authorized to operate on Channels 2650–2656, 2662–2668, and 2674–2680 MHz as of July 16, 1971, may continue to operate on a coequal basis with other stations operating in accordance with the Table of Frequency Allocations. Requests for subsequent renewals or modification of existing licenses will be considered; however, expansion of systems comprised of such stations will not be permitted except on frequencies allocated for the service.

(c) Channels 2596–2602, 2602–2608, 2608–2614, 2614–2620, 2620–2626, 2626–2632, 2632–2638, and 2638–2644 MHz and the corresponding 125 kHz channels listed in §74.939(j) are shared with the Multipoint Distribution Service. No new Instructional Television Fixed Service applications for these channels filed after May 25, 1983 will be accepted, except in accordance with paragraph (f) of this section. In those areas where Multipoint Distribution Service use of these channels is allowed, Instructional Television Fixed Service users of these channels will continue to be afforded protection from harmful cochannel and adjacent channel interference from Multipoint Distribution Service stations, pursuant to §21.902 of this chapter.

NOTE TO PARAGRAPH (c): No 125 kHz channels are provided for Channels E3, E4, F3 and F4, except for those grandfathered. The 125 kHz channels associated with Channels E3, E4, F3 and F4 are allocated to the Private Operational Fixed Point-to-Point Microwave Service, pursuant to §101.147(g) of this chapter.

(d) Frequencies will be assigned as follows:

(1) A licensee is limited to the assignment of no more than four 6 MHz and four 125 kHz channels for use in a single area of operation, all of which 6 MHz channels initially should be selected from the same Group listed in paragraph (a) of this section, but which later may come from different Groups as a result of authorized channel swaps pursuant to paragraph (f) of this section. An area of operation is defined as the area 35 miles or less from the ITFS main station transmitter. Applicants shall not apply for more channels than they intend to construct within a reasonable time, simply for the purpose of reserving additional channels. The number of channels authorized to an applicant will be based on the demonstration of need for the number of channels requested. The Commission will take into consideration such factors as the amount of use of any currently assigned channels and the amount of proposed use of each channel requested, the amount of, and justification for, any repetition in the schedules, and the overall demand and availability of ITFS channels in the community. For those applicant organizations formed for the purpose of serving accredited institutional or governmental organizations, evaluation of the need will only consider service to those specified receive sites which submitted supporting documentation pursuant to §74.932(a)(4).

(2) An applicant leasing excess capacity and proposing a schedule which complies in all respects with the requirements of §74.931 (c) or (d) will have presumptively demonstrated

need, in accordance with paragraph (d)(1) of this section, for no more than four channels. This presumption is rebuttable by demonstrating that the application does not propose to comport with our educational usage requirements, that is, to transmit some formal educational usage, as defined in §74.931(a), and to transmit the requisite minimum educational usage of §74.931 (c) or (d) for genuinely educational purposes.

(e) Frequencies in the bands 2500–2650 MHz, 2656–2662 MHz, 2668–2674 MHz, and 2680–2686 MHz are available for point-to-multipoint use and/or for communications between ITFS response stations and response station hubs when authorized in accordance with the provisions of §74.939, provided that such frequencies may be employed for ITFS response stations only when transmitting using digital modulation.

(f) An ITFS licensee may apply to exchange evenly one or more of its assigned channels with another ITFS licensee, or with an MDS licensee or conditional licensee, except that an ITFS licensee may not exchange one of its assigned channels for MDS channel 2A. The licensees seeking to exchange channels shall file in tandem with the Commission separate pro forma assignment of license applications, each attaching an exhibit which clearly specifies that the application is filed pursuant to a channel exchange agreement. The exchanged channel(s) shall be regulated according to the requirements applicable to the assignee; provided, however, that an ITFS licensee which receives one or more E or F Group channels through a channel exchange with an MDS licensee or conditional licensee shall not be subject to the restrictions on ITFS licensees who were authorized to operate on the E or F Group channels prior to May 26, 1983.

(g) A temporary fixed ITFS station may use any available ITFS channel on a secondary basis. Operation of stations located within 56.3 km (35 miles) of Canada shall be limited by §74.24(h)(3).

(h) Where adjacent channel operation is proposed in any area, the preferred location of the proposed station's transmitting antenna is at the site of the adjacent channel transmitting antenna. If this is not practicable, the adjacent channel transmitting antennas should be located as close as reasonably possible.

(i) On the E and F-channel frequencies, a point-to-point ITFS station may be involuntarily displaced by an MDS applicant or licensee, provided that suitable alternative spectrum is available and that the MDS entity bears the expenses of the migration. Suitability of spectrum will be determined on a case-by-base basis; at a minimum, the alternative spectrum must be licensable by ITFS operators on a primary basis (although it need not be specifically allocated to the ITFS service), and must provide a signal that is equivalent to the prior signal in picture quality and reliability, unless the ITFS licensee will accept an inferior signal. Potential expansion of the ITFS licensee may be considered in determining whether alternative available spectrum is suitable.

(j) If suitable alternative spectrum is located pursuant to paragraph (h) of this section, the initiating party must prepare and file the appropriate application for the new spectrum, and must simultaneously serve a copy of the application on the ITFS licensee to be moved. The initiating party will be responsible for all costs connected with the migration, including purchasing, testing and installing new equipment, labor costs, reconfiguration of existing equipment, administrative costs, legal and engineering expenses necessary to prepare and file the migration application, and other reasonable documented costs. The initiating party must secure a bond or establish an escrow account to cover reasonable incremental increase in ongoing expenses that may fall upon the migrated licensee. The bond or escrow account should also account for the possibility that the initiating party subsequently becomes bankrupt. If it becomes necessary for the Commission to assess the sufficiency of a bond or escrow amount, it will take into account such factors as projected incremental increase in electricity or maintenance expenses, or relocation expenses, as relevant in each case.

(k) The ITFS party to be moved will have a 60-day period in which to oppose

the involuntary migration. The ITFS party should state its opposition to the migration with specificity, including engineering and other challenges, and a comparison of the present site and the proposed new site. If involuntary migration is granted, the new facilities must be operational before the initiating party will be permitted to begin its new or modified operations. The migration must not disrupt the ITFS licensee's provision of service, and the ITFS licensee has the right to inspect the construction or installation work.

[29 FR 7023, May 28, 1964, as amended at 31 FR 10743, Aug. 12, 1966; 36 FR 11587, June 16, 1971; 48 FR 33901, July 26, 1983; 49 FR 32596, Aug. 15, 1984; 50 FR 26758, June 28, 1985; 55 FR 46013, Oct. 31, 1990; 56 FR 57819, Nov. 14, 1991; 58 FR 44951, Aug. 25, 1993; 59 FR 35636, July 13, 1994; 60 FR 20246, Apr. 25, 1995; 63 FR 65113, Nov. 25, 1998; 65 FR 46620, July 31, 2000]

§ 74.903 Interference.

(a) Since interference in this service will occur only when an unfavorable desired-to-undesired signal ratio exists at the antenna input terminals of the affected receiver, the directive properties of receiving antennas can be used to minimize the hazard of such interference. Interference may also be controlled through the use of directive transmitting antennas, geometric arrangement of transmitters and receivers, and the use of the minimum power required to provide the needed service. Harmful interference will be considered present when the reference receiving antenna is oriented to receive the maximum desired signal, and a free space calculation determines that the desired-to-undesired signal ratio is less than the value specified for the respective channel under consideration.

(1) Cochannel interference is defined as the ratio of the desired signal to the undesired signal, at the output of a reference receiving antenna oriented to receive the maximum desired signal level. Harmful interference will be considered present when a calculation using a terrain sensitive signal propagation model determines that this ratio is less than 45 dB (or the appropriate value for bandwidths other than 6 MHz.)

(2) Adjacent channel interference is defined as the ratio of the desired signal to undesired signal present in an adjacent channel, at the output of a reference receiving antenna oriented to receive the maximum desired signal level.

(i) Harmful interference will be considered present when a calculation using a terrain sensitive signal propagation model determines that this ratio is less than 0 dB (or the appropriate value for bandwidths other than 6 MHz.)

(ii) In the alternative, harmful interference will be considered present for an ITFS station constructed before May 26, 1983, when a calculation using a terrain sensitive signal propagation model determines that this ratio is less than 10 dB (or the appropriate value for bandwidths other than 6 MHz), unless:

(A) The individual receive site under consideration has been subsequently upgraded with up-to-date reception equipment, in which case the ratio shall be less than 0 dB. Absent information presented to the contrary, however, the Commission will assume that reception equipment installation occurred simultaneously with original station equipment; or

(B) The license for an ITFS station is conditioned on the proffer to the affected ITFS station licensee of equipment capable of providing a ratio of 0 dB or more at no expense to the ITFS station licensee, and also conditioned, if necessary, on the proffer of installation of such equipment; and there has been no showing by the affected ITFS station licensee demonstrating good cause and that the proposed equipment will not provide a ratio of 0 dB or more, or that installation of such equipment, at no expense to the ITFS station licensee, is not possible or has not been proffered.

(3) For purposes of this section and except as set forth in § 74.939 regarding the protection of response station hubs, all interference calculations involving receive antenna performance shall use the reference antenna characteristics shown in Figure I, § 74.937(a) or, in the alternative, utilize the actual pattern characteristics of the antenna in use at the receive site under study. If the actual receive antenna pattern is utilized, the applicant must submit